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EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Paper No. 18

Application Number: 09/901,550

Filing Date: July 09, 2001

Appellant(s): KAHLISCH ET AL.

Laurence A. Greenberg
For Appellant

EXAMINER'S ANSWER

MAILED

JUN 20 2003

GROUP 2800

This is in response to the appeal brief filed on April 16, 2003

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellant's statement of the issues in the brief is correct.

(7) *Grouping of Claims*

Appellant's brief includes a statement that claims 1 ~ 7 and 11 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) *ClaimsAppealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

4, 562, 092	Wiech, Jr.	12-1985
4, 599, 636	Roberts et al.	07-1986

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 ~ 3, 5 ~ 7 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Wiech, Jr.

Regarding claim 1, Wiech, Jr. discloses in Figs. 1 and 2 and column 10, lines 42 ~ 46 a support matrix for integrated semiconductors, comprising:

Claims	Wiech, Jr.
- a frame having at least one bonding channel with an edge formed therein, said frame further having a groove formed therein along said edge of said bonding channel;	- a frame (1) having at least one bonding channel (30) with an edge formed therein, the frame further having a groove (10) formed therein along the edge of the bonding channel;

Claims

- conductor track structures disposed on said frame, said groove formed in said frame functioning as a barrier for preventing a flow of a flowable material from said bonding channel onto said frame and onto said conductor track structures, said barrier having a region with a parting agent disposed thereon for repelling the flowable material; and

- contacts, selected from the group consisting of bonding leads and wires, connected to said conductor track structures and disposed in said bonding channel, said contacts used for connecting said conductor track structures to an integrated circuit.

Wiech, Jr.

- conductor track structures (18) disposed on the frame, said groove formed in the frame functioning as a barrier for preventing a flow of a flowable material from the bonding channel onto the frame and onto the conductor track structures, the barrier having a region with a parting agent (24) disposed thereon for repelling the flowable material; and

- contacts, selected from the group consisting of bonding leads and wires (4), connected to the conductor track structures and disposed in the bonding channel, the contacts used for connecting the conductor track structures to an integrated circuit (2).

Claims

Regarding claim 2, wherein said barrier is disposed on all sides of said bonding channel and completely surrounding said bonding channel.

Regarding claim 3, wherein said frame has a surface remote from said bonding leads and said barrier is formed in said surface of said frame which is remote from said bonding leads.

Regarding claim 5, wherein said barrier has a region with a parting agent disposed thereon for repelling the flowable material.

Wiech, Jr.

Regarding claim 2, Wiech, Jr. discloses in Figs. 1 and 2 said barrier (10) being disposed on all sides of the bonding channel and completely surrounding the bonding channel.

Regarding claim 3, Wiech, Jr. discloses in Figs. 1 and 2 the frame (1) having a surface remote from the bonding leads and the barrier being formed in the surface of the frame which is remote from the bonding leads.

Regarding claim 5, Wiech, Jr. discloses in Figs. 1 and 2 the barrier having a region with a parting agent (24) disposed thereon for repelling the flowable material.

Regarding claim 6, Wiech, Jr. discloses in Figs. 1 and 2 a support matrix for integrated semiconductors, comprising:

Claims

- a frame having at least one bonding channel with an edge formed therein;
- conductor track structures disposed on said frame, said frame and said conductor track structures having a groove formed therein along said edge of said bonding channel, said groove functioning as a barrier for preventing a flow of a flowable material from said bonding channel onto said frame and onto said conductor track structures, said barrier having a region with a parting agent disposed thereon for repelling the flowable material; and

Wiech, Jr.

- a frame (1) having at least one bonding channel (30) with an edge formed therein;
- conductor track structures (18) disposed on the frame, the frame and the conductor track structures having a groove (10) formed therein along the edge of the bonding channel, the groove functioning as a barrier for preventing a flow of a flowable material from the bonding channel onto the frame and onto the conductor track structures, the barrier having a region with a parting agent (24) disposed thereon for repelling the flowable material; and

Claims

- contacts, selected from the group consisting of bonding leads and wires, connected to said conductor track structures and disposed in said bonding channel, said contacts used for connecting said conductor track structures to an integrated circuit.

Regarding claim 7, wherein said groove is formed to extend into said bonding leads.

Regarding claim 11, Wiech, Jr. discloses in Figs. 1 and 2 a support matrix for integrated semiconductors, comprising:

Claims

- a frame having at least one bonding channel with an edge formed therein;

Wiech, Jr.

- contacts, selected from the group consisting of bonding leads and wires (4), connected to the conductor track structures and disposed in the bonding channel, the contacts used for connecting the conductor track structures to an integrated circuit.

Regarding claim 7, Wiech, Jr. discloses in Figs. 1 and 2 the groove being formed to extend into the bonding leads.

Wiech, Jr.

- a frame (1) having at least one bonding channel (30) with an edge formed therein;

Claims

Wiech, Jr.

- conductor track structures disposed on said frame,
- contacts, selected from the group consisting of bonding leads and wires, connected to said conductor track structures and disposed in said bonding channel, said contacts used for connecting said conductor track structures to an integrated circuit; and
- a barrier formed along said edge, said barrier having a parting agent disposed thereon for repelling a flowable material from said bonding channel onto said frame and onto said conductor track structures.

- conductor track structures (18) disposed on the frame,
- contacts, selected from the group consisting of bonding leads and wires (4), connected to the conductor track structures and disposed in the bonding channel, the contacts used for connecting the conductor track structures to an integrated circuit (2); and
- a barrier (10) formed along the edge, the barrier having a parting agent (24) disposed thereon for repelling a flowable material from the bonding channel onto the frame and onto the conductor track structures.

Further, the phrase “for repelling a flowable material from said bonding channel onto said frame and onto said conductor track structures” is functional language that does not differentiate the claimed apparatus from Wiech, Jr.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wiech, Jr. in view of Roberts et al.

Wiech, Jr. discloses in column 10, lines 42 ~ 46 the flowable material for forming a structure on the support matrix.

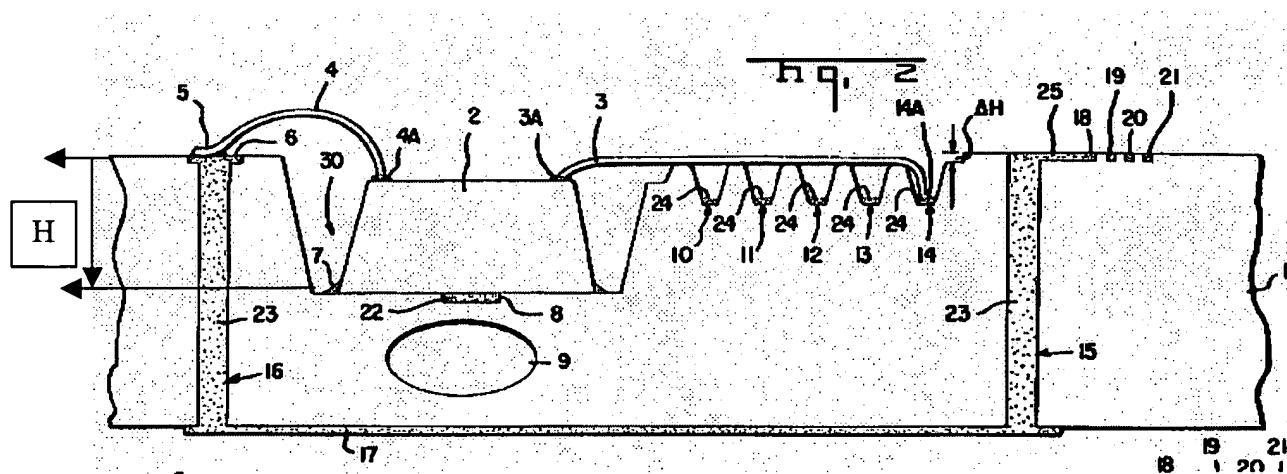
Wiech, Jr. does not disclose silicone as the flowable material. However, Roberts et al. discloses in column 8, lines 21 and 22 silicone as the flowable material. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wiech, Jr. by using silicone for the flowable material as taught by Roberts et al. The ordinary artisan would have been motivated to modify Wiech, Jr. in the manner described above for at least the purpose of increasing a chip protection.

(11) Response to Argument

Response to arguments against the 35 U.S.C. § 102(b) rejection.

On page 6, Appellant argues “it is questionable if the recess 30 of Fig. 2 of Wiech, Jr. is a bonding channel because the most obvious purpose of the recess 30 is to receive a semiconductor chip 2.” This argument is not persuasive since it attempts to distinguish the claim from Wiech, Jr. merely through semantics. Whether one refers to element (30) as recess or bonding channel, no patentable difference exists since there is no structural difference.

Further, Appellant argues “the wires 3 and 4 in Wiech, Jr. are not disposed in the recess 30, but rather disposed above the recess 30.” Such argument is not persuasive because the bond wires 3, 4 in Wiech, Jr. are under H when the H is the height of the bonding channel (30, see Fig. 2 at the bottom). Thus, Wiech, Jr. clearly shows in Fig. 2 the bond wires 3, 4 are disposed in the bonding channel (30).



Furthermore, Appellant argues "Wiech, Jr. does not disclose that the grooves 10 to 14 serve as a barrier for flowable material." Such argument is not persuasive because function of the claimed invention must result in a structural difference between the claimed invention and Wiech, Jr. in order to patentably distinguish the claimed invention from Wiech, Jr. Since Wiech, Jr.'s structure is capable of performing the intended use, Wiech, Jr. meets the claim.

Even further, Appellant argues "the conductive material 24 forms conductors rather than a parting agent." This argument is not persuasive since it attempts to distinguish the claim from Wiech, Jr. merely through semantics. Whether one refers to element (24) as a parting agent or conductors, no patentable difference exists since there is no structural difference. Further, Appellant never specifically defined in the specification of instant invention that what material is used for the parting agent, thus any material reads on as the parting agent. In other words, it is not relevant that the parting agent (24) in Wiech, Jr. is a conductive material or not. Furthermore, since the parting agent (24) in Wiech, Jr. is located in a barrier (10) and capable of performing the intended use, Wiech, Jr. discloses the parting agent (24) and meets the rejected claims 1, 6 and 11.

As reasons provided in the above, the Examiner does not see the structural difference between so-called "parting agent" 10 shown in Fig. 2 of the application and 24 of Wiech, Jr.

Next, Appellant argues "Wiech, Jr. does not teach preventing any flowable material from creeping along the support matrix." This argument is not persuasive because a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior

art. Since the groove (10) of Wiech, Jr. is capable of performing the intended use, Wiech, Jr. meets the claim.

Next, Appellant argues “in Wiech, Jr., encapsulating the substrate of Fig. 2 means that the whole surface of the support matrix, including the grooves 10 ~ 14, will be covered with the encapsulating material. It is, therefore, not necessary in Wiech, Jr. to prevent the flowable material from flowing along the support matrix surface.” This argument is not persuasive. Wiech, Jr. clearly discloses in column 10, lines 42 ~ 46 that **part of the substrate** can be encapsulated. In other words, the whole surface of the support matrix, including the grooves 10 ~ 14, **is not covered** with the encapsulating material. Therefore, the groove (10) in Wiech, Jr. prevents the flowable material from flowing along the support matrix surface.

For the above reasons, Wiech, Jr. shows in Fig. 2 the barrier (10) having a region with a parting agent (24) disposed thereon for repelling the flowable material, as recited in claims 1, 6 and 11 of the instant application.

Response to arguments against the 35 U.S.C. § 103(a) rejection.

On page 10, Appellant argues “Roberts et al. also do not disclose any parting agent repelling a flowable material. According to column 8, lines 21 ~ 22 of Roberts et al., silicon is used as an encapsulation material, which is intended to completely isolate the substrate from environmental influences, rather than to achieve a selective application of an encapsulation material.” This argument is not persuasive because only teaching the Examiner is relying on

from the disclosure of Roberts et al. is the teaching of the encapsulation material as defined in claim 8. Therefore, arguments thereagainst are not deemed to be relevant as to how Roberts et al. is applied in the rejection.

(12) Conclusion

As explained above under the *Grounds of rejection*, Wiech, Jr. discloses all aspects of the claimed invention. Therefore, the Examiner has clearly established a *prima facia* case in rejecting the claimed invention. Appellant, on the other hand, presents arguments and allegations in this Brief which are unsupported by the disclosure of Wiech, Jr.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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c.c.

June 16, 2003

Conferees

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